DOCUMENT RESUME

ED 480 358 CE 085 342

AUTHOR	Bottoms, Gene
TITLE	The 1996 High Schools That Work Assessment: Good News, Bad News and Hope. Research Brief.
INSTITUTION	Southern Regional Education Board, Atlanta, GA.
REPORT NO	No-1
PUB DATE	1997-06-00
NOTE	6p.; For related Briefs, see CE 085 343-350.
AVAILABLE FROM	For full text: http://www.sreb.org/programs/hstw/publications/briefs/97brief1.as p.
PUB TYPE	Information Analyses (070)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Academic Achievement; College Preparation; Curriculum Evaluation; *Educational Improvement; Educational Needs; *High School Students; High Schools; Job Skills; Mathematics Achievement; *Outcomes of Education; *Program Effectiveness; Racial Differences; Reading Achievement; Science Achievement; Scores; *Student Evaluation; Teacher Collaboration; Teacher Expectations of Students; Teaching Methods; *Vocational Education
IDENTIFIERS	*High Schools That Work

ABSTRACT

Implementation of the High Schools That Work (HSTW) key practices improved achievement for career-bound students in these four ways: (1) HSTW sites showed significant improvement in average reading and math scores; (2) the percentage of career- bound students meeting HSTW performance goals in 1994 and 1996 increased from 33% to 43% in reading and from 34% to 44% in mathematics; (3) the gap widened between HSTW career-bound students and vocational students nationally; and (4) a large proportion of the 260 sites assessed in 1993/94 showed improvement in 1996. Mathematics achievement for African-American HSTW youth did not improve between 1994 and 1996, and over half of the career-bound students fell short of the HSTW performance goals in math, reading, and science. Successful HSTW sites do the following: set high expectations; offer intellectually challenging occupational studies; increase access to academic studies that teach essential content from college preparatory curriculum; require a challenging program of study consisting of an upgraded academic core and a major; provide a structured system of work-based and school-based learning; enable academic and vocational teachers to plan together; engage each student actively; involve each student and his or her parents in planning a high school program of study; provide extra help; and use student assessment to advance student learning. (Includes 3 figures.) (MO)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 480 358

The 1996 High Schools That Work Assessment: Good News, Bad News and Hope

Gene Bottoms

Research Brief
No. 1
June 1997

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

M. A. Sullivan

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

CE085342

BEST COPY AVAILABLE

CE CETR 0269

HIGH SCHOOLS THAT WORK

Research Brief

Number 1 - June 1997

The 1996 *High Schools That Work* Assessment: Good News, Bad News and Hope

By Gene Bottoms

The 1996 *High Schools That Work* assessment report contains good news, bad news and hope. The report shows that school, district and state efforts to implement the *High Schools That Work* key practices to improve student achievement are paying off for schools willing to sustain their improvement efforts. The good news is apparent in four ways:

1. *HSTW* sites that participated in the assessment in 1994 and again in 1996 showed significant improvement in average reading and mathematics scores. The reading scores increased from 264 to 273 and the mathematics scores from 281 to 285.
2. The percentage of career-bound students meeting the *HSTW* performance goals in 1994 and 1996 increased from 33 percent to 43 percent in reading and from 34 percent to 44 percent in mathematics. The science performance declined slightly—from 39 percent to 38 percent.

   Students at the most successful *HSTW* sites—those who had ethnic, racial and socioeconomic backgrounds similar to those of students at all sites—exhibited remarkable success. Almost 50 percent met the *HSTW* science goal, 66 percent met the reading goal and 63 percent met the mathematics goal.
3. *HSTW* sites widened the gap between their career-bound students and vocational students nationally between 1994 and 1996. In 1994, youth at *HSTW* sites had an average reading score of 264, compared to 267 for vocational students in the national sample. They had a mathematics score of 281, compared to 277 for vocational students nationally, and a science score of 282, compared to 267 for vocational students in the national sample. By 1996, students at *HSTW* sites had outpaced the national group in reading and had increased the gap in mathematics and science. (See Figure 1.)
4. A large proportion of the 260 sites participating in the 1993 and 1994 assessments showed improvement in 1996: 60 percent improved in reading, 49 percent improved in mathematics and 53 percent improved in science.

The bad news is that the mathematics achievement of African-American youth at *HSTW* sites did not improve between 1994 and 1996. Also, more than half of career-bound students at *HSTW* sites fell short of the *HSTW* performance goals in reading, mathematics and science. These youth are handicapped in getting and advancing in a good job and pursuing further studies.

The hope lies in knowing what to do to correct the situation. Embedded in the assessment report given to each *HSTW* site, school leaders and teachers can find what high-achieving schools are doing to get more career-bound youth to meet the *HSTW* goals. Successful schools:

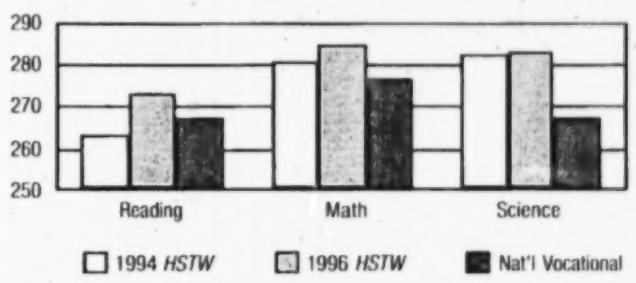
■ Set high expectations and get students to meet them.

HSTW sites that got career-bound students to complete challenging assignments both in and out of class had significantly higher reading, mathematics and science scores. Student achievement was significantly higher if students did at least one hour of homework daily outside of class. Achievement also rose if students were encouraged to take more mathematics and science courses, including one of each in the 12th grade.

The bad news is that at least one-third of career-bound youth are enrolled in watered-down academic

Figure 1

Average Achievement Scores of Career-Bound Students



courses that they can pass without making any effort outside of class. Thirty-nine percent of students who scored below the basic level in mathematics and 36 percent who scored below the basic level in science said they usually had no homework or did not do it. Further, at least 61 percent of youth had no weekly homework assignments from a vocational teacher.

■ Offer intellectually challenging occupational studies.

The good news is that students who used reading, writing, mathematics and science skills frequently to complete challenging assignments in vocational classes had significantly higher achievement.

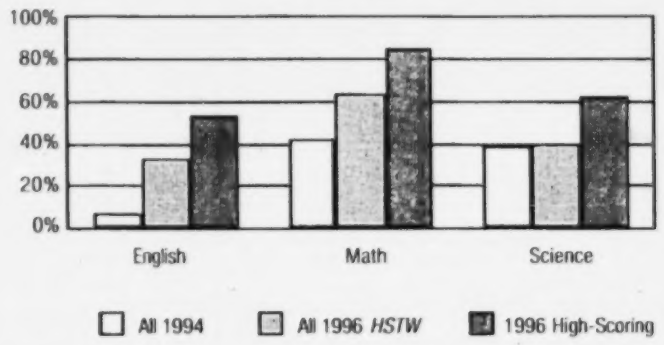
The bad news is that half of students who participated in the assessment at *HSTW* sites in 1996 were enrolled in vocational courses that lacked challenging assignments and projects. These students were not required to apply mathematics to complete assignments, to seek technical information and organize it into a procedure for completing a project, to write critiques of their work or to make oral reports. Such vocational programs are not preparing today's youth for an information-centered economy. Rather, they are denying youth access to higher paying jobs that require learning and thinking skills.

■ Increase access to academic studies that teach the essential content from the college preparatory curriculum.

The good news is that *HSTW* sites continue to make progress in the percentage of career-bound youth taking higher-level English and mathematics courses. (See Figure 2.) Students who take rigorous academic courses have significantly higher reading, mathematics and science achievement. For example, students who completed the *HSTW*-recommended curriculum in English, mathematics and science had average scores that either approximated or exceeded the *HSTW* goals—and had significantly higher achievement than students who took lower-level courses. (See Figure 3.)

Figure 2

Students Meeting the *HSTW* English, Mathematics and Science Curriculum Goals



The bad news is that *HSTW* sites still face a major hurdle in enrolling career-bound youth in an English curriculum taught to college-preparatory standards. Students in a college-prep curriculum develop the ability to analyze situations, organize and synthesize written information and make written reports—skills that are critical to success in postsecondary education and a good job.

Also under the heading of bad news, science departments at *HSTW* sites continue to deny 60 percent of career-bound youth access to a science curriculum that builds problem-solving and science literacy skills. No progress was made between 1994 and 1996 in enrolling more career-bound students in courses such as chemistry, physics, college-prep physical science and college-prep biology. It is time to close down low-level science courses and enroll career-bound youth in courses taught at the college prep level.

Yet, hope can be found in the 1996 data. If 64 percent of career-bound students at all *HSTW* sites and 84 percent at high-achieving sites can complete a demanding mathematics curriculum, these youth can also complete demanding English and science curricula. (See Figure 2.) *Career-bound students do not need more English and science credits; they need to take the "right courses" taught to high standards.*

School leaders and teachers need to acknowledge that career-bound youth can learn higher-level academic content. The quicker a school decides to enroll career-bound students in high-level courses, the quicker teachers will learn how to teach high-level content to this group of youth.

■ Have students complete a challenging program of study consisting of an upgraded academic core and a major. An upgraded core includes at least four years of college preparatory English and three years each of mathematics and science, including at least two years in each area equivalent in content to courses offered in the college preparatory curriculum. A major includes at least four Carnegie units in a broad technical field or further academic studies and two Carnegie units in related technical or academic core courses.

The good news is that students who complete the *HSTW*-recommended curriculum greatly exceed the *HSTW* goals in reading, mathematics and science. In fact, students completing the recommended curriculum scored 16 points higher in reading, 27 points higher in mathematics and 14 points higher in science in the 1996 assessment than students who completed a less demanding program of study. Students who complete the *HSTW*-recommended curriculum at high-achieving sites have average

reading, mathematics and science scores that begin to approximate those of college-prep students nationally.

The bad news is that 83 percent of students at all *HSTW* sites and 63 percent at high-achieving sites did not complete an upgraded academic core and a career concentration. However, 64 percent of students at all sites and 84 percent at high-achieving sites completed the recommended curriculum in mathematics. This is evidence that the problem is with the "system" rather than the student. *Many schools have weak guidance programs that fail to help career-bound students and their parents understand what it takes to succeed in further education and the workplace. When an ineffective guidance system is coupled with a curriculum system based on sorting and accommodating students, the result is low performance by a group of youth who need more rather than less rigor.*

■ Provide a structured system of work-based and school-based learning.

The good news is that students who earn school credit in structured work-based learning programs reported higher-quality learning experiences at the work site. A significantly higher percentage of youth in organized work-based learning programs reported that:

- Their job related to their vocational studies;
- They rotated through several departments;
- They observed veteran workers;
- They learned new technical skills;
- They were encouraged to develop good work habits;
- They were shown how to use mathematics in job-related activities;
- They were encouraged to excel in academic studies;
- They were encouraged to develop good customer relations;
- They learned how to use reading, writing and speaking skills.

The good news also includes the fact that students who work up to 15 to 20 hours a week have higher reading, mathematics and science scores than students who do not work at all or work more than 20 hours weekly.

The bad news is that students who receive school credit for work-based learning have significantly lower reading, mathematics and science achievements than students who receive no credit. Two factors contribute to lower achievement: 1) Students who receive credit are more likely to work 21 hours or more per week and 2) They are much less likely to take mathematics or science in the 12th grade.

The hope lies in the fact that high school leaders—including vocational leaders—can set high standards for awarding school credit for work site learning. In doing so, they should:

- Award work site credit only to students who are completing the *HSTW*-recommended curriculum.
- Require students to take four school-based credits in the 12th grade, including three credits in high-level academic courses;
- Require students to have a minimum 2.5 grade point average in core academic courses to enter and remain in the program.

■ Enable academic and vocational teachers to plan together.

The good news is that the 18 *HSTW* sites participating in an advanced integrated learning effort—giving academic and vocational teams time to do collaborative planning—made more progress between 1994 and 1996 than all *HSTW* sites in increasing the percentage of students meeting the reading and mathematics goals.

The bad news is that the organizational structure and daily schedule at most high schools deter teams of academic and vocational teachers from doing the planning necessary to engage students in intellectually-challenging assignments. Yet, when teachers work together across the curriculum, they develop creative ways to get students to work harder.

■ Engage each student actively in the learning process.

The good news is that students learn more when they are doing challenging assignments. Activities associated with higher achievement include collecting, evaluating, organizing and presenting information for senior projects, major research papers, short reflective writing assignments and special mathematics projects. Other activities include solving open-ended problems and completing projects that require academic and technical knowledge.

The bad news is that a lot of career-bound youth at *HSTW* sites do not remember having to complete intellectually-challenging assignments. For example, more than 60 percent of these youth said they seldom or never:

- Made a presentation in class about a special mathematics project;

Figure 3

Performance of Students Completing Challenging Courses

Curriculum Level	Percent	Average Score	*HSTW* Goal
High-Level English	33	281	279
Low-Level English	67	269	
High-Level Mathematics	64	294	295
Low-Level Mathematics	36	270	
High-Level Science	39	289	292
Low-Level Science	61	279	

- Used a computer to complete a mathematics assignment;
- Made a presentation in class about a science project;
- Prepared a written report on a science project;
- Presented an oral report in a vocational class.

Yet, these experiences are associated with higher achievement. Schools that expect teachers to prepare for many different course levels need to offer fewer levels so that teachers will have time to develop intellectually-challenging learning activities for all classes.

■ Involve each student and his or her parents in planning a high school program of study.

The good news is that the percentage of *HSTW* career-bound students planning to pursue further study increased from 59 percent in 1994 to 66 percent in 1996.

The bad news is that at least half of the students planning to continue their education were not prepared to do so. The quality of guidance services provided to career-bound youth did not improve very much between 1994 and 1996. More than one-third of career-bound youth at *HSTW* sites in 1996 reported that they received no help in planning a program of study or that they simply did not have such a program.

Only 20 percent of youth said they met with their parents and a counselor or advisor to plan a program of study. Advisors need to help career-bound youth and their parents understand what is required for successful transition into postsecondary studies or a primary job. This failure to provide information and to confront youth with the realities of life is one of the major weaknesses in improving the quality of learning for career-bound youth.

■ Provide extra help.

The good news is that more than half of career-bound students at *HSTW* sites reported receiving extra help in reading from their English teachers, while almost 80 percent reported receiving extra help from their mathematics teachers. More than half reported that their families helped in reading and mathematics. Fourteen percent received extra help in reading from a special resource teacher, while five percent benefited from a tutor. In mathematics, 15 percent got help from a tutor and 12 percent from a special resource teacher.

The bad news is that 25 percent of students who scored below the basic reading level received no extra help in reading, while nine percent who scored below the basic mathematics level received no extra help in mathematics.

Extra help services and an extended school day, week and year must be more readily available as schools enroll more career-bound youth in higher-level language arts, mathematics and science courses.

■ Use student assessment to advance student learning.

The good news is that *HSTW* sites make improvement when they use data on student achievement and on school and instructional practices to change what is taught and what is expected. Schools make progress in advancing student learning when leaders and teachers work together to find and implement solutions to problems identified by the data.

The bad news is that too many school leaders are failing to use data to engage the faculty in continuous school improvement.

Summary

The most progressive schools in the *High Schools That Work* network have shifted the emphasis from finding fault to fixing the system. Parents and business leaders as well as district, school and teacher-leaders are working together to develop meaningful learning experiences that send a message to youth that high performance counts.

Gene Bottoms is Vice President for Education and Work at the Southern Regional Education Board.

Taking Hope from the Experiences of Successful High Schools

State boards of education, legislators, local school boards and education leaders can take hope from the experiences of *HSTW* sites that improved between 1994 and 1996. They can support principals and teachers in doing what the most-improved *HSTW* sites have done, including:

- Enrolling more career-bound youth in an upgraded academic core and a major, closing down the general track and requiring all students to finish an academic or career concentration;
- Working with employers to send a message to students that working hard to perform well in the right courses can have an immediate payoff in applying for a good job;
- Supporting teachers with materials, planning time and staff development to help them engage career-bound youth in intellectually challenging learning assignments;
- Creating a climate in which district and school teachers and leaders work together to study and act on assessment data to solve problems;
- Discarding ineffective courses and practices and concentrating on approaches to advance student learning;
- Raising standards in vocational courses by requiring students to use academic skills in completing challenging work-related projects;
- Revising guidance systems to make parents partners with their children and schools in planning high school programs of study;
- Using work sites to advance school-based studies.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

[X] This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

[ ] This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").